UPDATES
In School Health
SCHOOL HEALTH UNIT
Spring 2004

PREVENTING UNINTENTIONAL INJURIES: PROGRESS AND CHALLENGES

Eleven years ago the Massachusetts Department of Public Health dedicated an entire issue of ***News in School Health*** to the topic of injury prevention. Mindful of the high rate of intentional and unintentional injuries to our school age children, we included articles on sports and playground safety, bicycle and passenger safety, teenage work-related injuries, and adolescent suicide. We noted that the cost of these injuries, both to our children and to society was unacceptably high, and that most of these injuries are preventable.

Now, eleven years later, as we look at the recent data on injuries to school-age children, what has changed? First, we find that the numbers of injuries have decreased significantly. Data from 1989 indicated that 55 children, 5-14 years of age, died of injuries and 3,200 were hospitalized. An estimated 216,000 children were injured less seriously, treated in the emergency department and released. By 1999, the number of deaths had decreased to 35 in that same age group. In 2002 injury related hospitalizations had decreased to 1,617 and injury-related emergency department visits (for less serious injuries) had decreased to 101,512. That is the good news. It suggests that our prevention efforts have had results.

When we review the causes of injury deaths and hospitalizations, the news is less positive. Eleven years ago the main causes of injury deaths to the 5-14 year olds were motor vehicle crashes, drownings, and fire/burns. By the 1999-2001 period, suffocation had become the leading cause of death in this group. Among 10-14 year olds, 70% of these suffocation deaths were suicides. Motor vehicle crashes continue to claim the lives of far too many children, whether as young passengers, pedestrians, or teenage drivers.

In the Winter 2004 issue of ***Updates in School Health***, we addressed violence prevention, including suicide prevention. The current issue is devoted to the ongoing challenges of passenger safety, drinking and driving, and workplace injuries. In addition, some new topics have been included. Injuries from overloaded backpacks have become an increasing concern among parents and health care providers. Data from the Regional Poison Control Center indicates that the abuse of cold medications by adolescents is on the rise. The dangers of sports-related concussions are very real and too often unrecognized.

Schools have played—and will continue to play—a critical role in reducing injuries in the student population. Prevention education, enforcement of safe sports policies, staff role-modeling, and assessment of the school environment for safety risks are all part of a comprehensive program. We thank you for your past successes in these areas, and we sincerely hope that your continued efforts will result in an even greater reduction in injuries among your students.

Janet Berkenfeld
Director, Emergency Medical Services for Children

Cindy Rodgers
Director, Injury Prevention Program

Anne H. Sheetz
Director of School Health Services

"More than two-thirds of all deaths among children and adolescents aged 5-19 in the United States result from injuries. We know that most of these can be prevented, and schools have a critical role in making that happen."

Jeffrey P. Koplan, MD, MPH, Director of the CDC. December 7, 2001

NEWSBRIEFS

A Reminder to Report Epi-Pen® Administration:

The Massahusetts Department of Public Health (MDPH) has revised the regulations for administration of epinephrine to individuals experiencing a life-threatening allergic reaction in the schools to include before and after school programs. (See School Health Service website.) The new regulations require that a report be sent to the School Health Unit, MDPH whenever Epi-Pen®, is administered. The form is available on the School Health Service Website:http://www.state.ma.us/dph/fch/schoolhealth/medadmin.htm, or, from the School Health Unit. This is part of the School Health Service quality improvement program.

Update on Quality Improvement Program on Epi-Pen® Administration in the Schools:

Between September 2003 and April 2004, 55 school districts have submitted a total of 98 reports of Epi-Pen® administration to students or staff experiencing life-threatening allergic reactions in schools. Of these individuals, 22 had no previous history of an allergic condition. Another 4 students had previously been diagnosed with an allergic condition, but this information had not been shared with the school nurse. There have been four cases in which students were not transported to the nearest medical facility via Emergency Medical Services (EMS) following the administration of epinephrine. *Please note: because of the danger of biphasic reactions, all individuals receiving Epi-Pen® should be taken to the nearest emergency medical facility by the EMS.*

University of Massachusetts/Simmons College School Health Institute SUMMER INSTITUTE:

The SHI is planning a summer institute at the Cape Codder Resort in Hyannis on these dates: June 28, 29, 30th, 2004. Further information will be forthcoming.

School Health HIPAA (Health Insurance Portability and Accountabilty Act) Information:

The MDPH has prepared advisory documents regarding HIPAA and its application to schools. Please see http://www.state.ma.us/dph/fch/schoolhealth/hipaa_info.htm

Revised Waiver for Certain Screenings (Chapter 71, Section 57):

The School Health Unit has revised the waiver application and will require that all schools with existing waivers re-apply in the spring of 2004 for the FY05 school year. The new application may be found at http://www.state.ma.us/dph/fch/schoolhealth/lawsregs.htm

Skin Cancer Prevention:

The MDPH provides free resources on skin cancer prevention. For further information, visit the Massachusetts Health Promotion Clearinghouse website at: www.maclearinghouse.com

INJURIES AMONG MASSACHUSETTS CHILDREN 5 TO 17 YEARS

The Injury Surveillance Program, Massachusetts Department of Public Health

Injuries among school aged children 5 to 17 years of age are a significant public health concern both nationally and in Massachusetts. In 2001, injuries were the leading cause of death among this population in Massachusetts, accounting for 46% of all deaths. Nonfatal injuries, leading to hospitalization or treatment in an emergency department, also contribute substantially to the adverse health events in this age group, as many of these are associated with short or long-term disabilities. However, despite the health burden imposed by injuries, most fatal and nonfatal injuries are preventable. Unintentional injuries are responsible for the majority of both injury-related deaths and hospitalizations. They are predictable and often preventable events for which the risk factors are known. Improving our awareness of the magnitude of the problem and identifying the causes and sequences of events that leads to these injuries is the first step in developing effective prevention strategies.

This article provides a descriptive overview of fatal and nonfatal injuries among this population in Massachusetts. As the developmental stages of childhood places different age groups at differential risk for various injuries, data are presented for the entire school age population, 5-17 years, as well as for three age groups: 5-9 year olds, 10-14 year olds, and 15-17 year olds.

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INJURIES AMONG MASSACHUSETTS CHILDREN 5 TO 17 YEARS *continued from page 2*

INJURY DEATHS AMONG MASSACHUSETTS CHILDREN 5-17 YEARS

For the three year period, 1999-2001, there was an average of 91 injury deaths per year (average annual rate of 8.3 per 100,000) among Massachusetts's children ages 5-17 years. This is nearly two times higher than the number of deaths by cancer, heart disease, congenital anomalies and the flu combined for the same time period.[1] The three leading causes of these injury deaths were 1) motor vehicle occupant, causing an average of 31 deaths per year, 2) suffocation, causing an average of 16 deaths per year, and 3) firearms, causing an average of 8 deaths per year. Most (68%) of these injury fatalities were unintentional. Seventeen percent (17%) were due to suicide and 11% were due to homicide. Approximately 26 percent of all injury fatalities each year were associated with a traumatic brain injury. Injury death rates were nearly twice as high among males compared with females.

INJURY-RELATED HOSPITALIZATIONS AMONG MASSACHUSETTS CHILDREN 5-17 YEARS

School age children experienced 2900 injury-related hospitalizations (rate of 263.0 per 100,000 per year) in 2002. The three leading causes of these injuries were 1) falls, 2) poisonings, and 3) strikes by an object or person. Most (82%) of these hospitalizations were for unintentional injuries, followed by12% for self-inflicted injuries, and 5% for assaults. Three hundred and ninety-eight (14%) of all injury-related hospitalizations among children 5-17 years were associated with a traumatic brain injury.

INJURY-RELATED EMERGENCY DEPARTMENT (ED) VISITS AMONG MASSACHUSETTS CHILDREN 5-17 YEARS

In 2002, there were 147,293 ED visits for nonfatal injuries (average annual rate of 13,356.3 per 100,000) among the Massachusetts school age population. The three leading causes of these injuries were 1) strikes by an object or person, 2) falls, and 3) overexertion. The vast majority (96%) of the injuries treated in the ED were unintentional, and 3% were due to assaults. Approximately 5% of these visits (N=7,594) were associated with a traumatic brain injury.

1 Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC

INJURY DATA BY SPECIFIC AGE GROUPS:

Figure 1: Leading Causes of Injury Deaths by Age Group, MA Residents 5-17 Years
Injury Deaths: 1999-2001

5-9 years			10-14 years			15-17 years		
Cause	Average Annual Number	Percent	Cause	Average Annual Number	Percent	Cause	Average Annual Number	Percent
Suffocation	2	18.2	Suffocation	7	29.2	MV traffic occupant26	46.4	
MV traffic occupant	2	18.2	Pedestrian	4	16.7	Firearm	7	12.5
Drowning	2	18.2	MV traffic occupant	3	12.5	Suffocation	7	12.5
Other	5	45.5	Other	10	41.7	Other	16	28.6
Total	11	100.0	Total	24	100.0	Total	56	100.0

Average Annual Rate =2.5/100,000 Average Annual Rate = 5.5/100,000 Average Annual Rate = 23.4/100,000

Data Source: Massachusetts Hospital Discharge Database, MDPH

Figure 2: Leading Causes of Injury-Related Hospitalization by Age Group, MA Residents 5-17 Years
Injury-Related Hospitalizations FY2002

5-9 years			10-14 years			15-17 years		
Cause	Annual Number	Percent	Cause	Annual Number	Percent	Cause	Annual Number	Percent
Falls	313	47.7	Falls	301	31.3	Poisonings	290	23.6
Struck by/against	49	7.5	Struck by/against	113	11.8	MV traffic occupant	200	16.3
Pedal	57	8.7	Poisonings	101	10.5	Falls	166	13.5
Other	237	36.1	Other	446	46.4	Other	574	46.7
Total	656	100.0	Total	961	100.0	Total	1,230	100.0

Annual Rate =152.3/100,000 Annual Rate = 222.8/100,000 Annual Rate = 511.0/100,000

Data Source: Massachusetts Hospital Discharge Database, MDPH

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Injury Data By Specific Age Groups *continued from page 3*

Figure 3: Leading Causes of Injury-Related Emergency Department Visits By Age Group, MA Residents 5-17 Years Injury-Related ED Visits FY2002

5-9 years			10-14 years			15-17 years		
Cause	Annual Number	Percent	Cause	Annual Number	Percent	Cause	Annual Number	Percent
Falls	13,727	33.4	Struck by/against	17,205	28.4	Struck by/against	12,327	28.2
Struck by/against	9,005	21.9	Falls	15,623	25.8	Falls	6,544	15.0
Cut/pierce	3,669	8.9	Overexertion	6,868	11.4	MV traffic occupant	5,943	13.6
Other	14,643	35.7	Other	20,782	34.4	Other	18,855	43.2
Total	41,044	100.0	Total	60,478	100.0	Total	43,669	100.0
Annual Rate = 9,526.0/100,000			Annual Rate = 14,024.0/100,000			Annual Rate = 18,143.4/100,000		

Data Source: Emergency Department Injury Surveillance System, MDPH

ADOLESCENTS 15-17 YEARS OF AGE:

- Injury-related fatality, hospitalization, and ED visit rates were highest among adolescents 15-17 years of age. Injury fatality rates in this age group were over nine times higher than the rates among children 5-9 years of age.
- Motor vehicle occupant injuries were the leading cause of injury death, and poisonings were the leading cause of injury-related hospitalizations among this age group. Seventy-three percent (73%) of these poisonings were self-inflicted.
- Substance abuse counseling and intervention and attention to the misuse of prescription and over-the-counter medicine could help to decrease the number of injuries due to poisoning. Similarly, programs designed to encourage seatbelt use and safe-driving practices could cut down on MV-occupant injuries. In this issue, see "Passenger Safety Tips" and "Cold Medicine Abuse".

YOUTH 10-14 YEARS OF AGE:

- Suffocation was the leading cause of death among youth 10-14 years of age. Seventy percent (70%) of these suffocation deaths were suicides.
- Falls and strikes by or against an object or person were the primary causes of injury-related ED visits and hospitalizations in this age group.
- Education of school personnel and parents as to the warning signs and risk factors associated with suicide is an important first step in suicide prevention. Visit www.suicidology.org and www.asfp.org for more information on suicide prevention.

CHILDREN 5 TO 9 YEARS OF AGE:

- Children 5 to 9 years old had the lowest rates of injury-related death, hospitalization, and ED visits among the school age population.
- The leading cause of injury-related hospitalizations and ED visits in this age group was falls.
- Preventative measures to guard against falls include window guards, gates on stairways, energy-absorbing materials on playgrounds and education of parents, teachers and guardians.

CONCLUSION:

The data presented here are a brief overview of the magnitude of the injury problem among the school age population 5-17 years in Massachusetts. Although the rates for fatal injuries among this population in Massachusetts children compares favorably with the US as a whole (8.3/100,000 vs. 15.7/100,0002 respectively), the burden of fatal and nonfatal injuries is substantial. Each year approximately 90 Massachusetts children 5-17 years of age die due to an injury, and there are over 150,000 injury-related ED visits and hospitalizations among this population.

Most of these injuries are preventable. This requires the concerted efforts of families, clinicians, teachers, policy makers, engineers, municipal planners, and others to make our environment safer for children. Identifying the causes of these injuries and understanding the sequence of events leading up to them is the first critical step in prevention.

1 Data sources: Massachusetts Death Files for 1999-2001, MA Department of Public Health, and the MA Hospital Discharge and Emergency Department Databases for FY2002, MA Department of Public Health. Three years of death data were used to provide statistical power in the analyses. All data were prepared by the Injury Surveillance Program, MA Department of Public Health.

2CDC. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2001). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from: URL: www.cdc.gov/ncipc/wisqars. [26 Sep 2002].

CHILD FATALITY REVIEW IN MASSACHUSETTS:

Understanding and Preventing Child Deaths

Janet Berkenfield, Director, Emergency Medical Services for Children, Massachusetts Department of Public Health

BACKGROUND

The passage of child fatality review legislation by the Massachusetts legislature in July 2000 was the culmination of efforts that began ten years earlier. Because it is widely accepted that many pediatric deaths are preventable, especially those from injuries, child health and advocacy professionals across the state recognize the importance of the child fatality review team as a critical tool in the prevention of death and injuries. The underlying assumption of child fatality review is that bringing professionals together from a variety of disciplines and experiences to examine individual cases can enhance the understanding of all review team participants. The process facilitates interagency networking and collaboration and can produce widely supported recommendations for changes in laws, products, policies and services that impact the health and safety of children.

The Massachusetts Child Fatality Review law establishes a State Team and 11 Local Teams. The State Team is placed within the office of the Chief Medical Examiner, and the Local Teams within each of 11 districts headed by a district attorney. These districts correspond to the state's counties, although two of the districts combine more than one county (Franklin and Hampshire Counties are combined, as are Barnstable, Dukes and Nantucket). Local Teams can meet as frequently as they want but must meet a minimum of four times per year.

The make up of the State and Local Teams is also established, but not limited, by the law. Team membership must include representatives of the Departments of Public Health, Social Services, Youth Services, Mental Health, Education and Mental Retardation. In addition, other members are to be drawn from the State and Local Police, the Juvenile Courts and the child advocacy community.

During the first two years of child fatality review implementation in Massachusetts, State and Local Teams were formed and cases were reviewed. The absence of any dedicated funding has presented a challenge, but the commitment is there and work is underway.

During the state's first full year of child fatality review activity, the primary focus of attention was on assembling teams and developing a review structure, protocols, and data collection. During the second year, teams continued to review cases and make recommendations for changes to the State Team. A recommendation currently under review and discussion by the teams is the need for a standardized, statewide protocol for examining sudden and unexplained infant deaths.

THE REVIEW PROCESS

Each Local Team receives monthly notifications of child deaths. These are in the form of death certificates that originate in the DPH Registry of Vital Records and Statistics and are sent to the Chief Medical Examiner, who in turn forwards them to the Local Teams.

Any death of a child from birth to 18, from any cause, may be chosen for review by the team chair, who notifies team members of the cases selected for review before the scheduled review meeting. It is recommended that, at a minimum, Local Teams review the following:

- Any death from an injury, intentional or unintentional
- Any sudden or unexpected deaths, including SIDS
- All medical examiner cases
- All cases with previous DSS involvement or cases that have been prosecuted by the district attorney's office.

A "preventable death" is broadly defined as a death that could have been avoided by a change in clinical care, a change in how a facility, e.g. a hospital, is organized, a change in public health policy or law, a change in community or environmental factors, or a change in individual or group behavior.

Preventable deaths are not limited to child abuse or intentional injury; most unintentional injuries are not "accidents" and can be prevented, as can many illnesses.

A child fatality review team does not function as a mechanism for criticizing or second-guessing any family or agency decisions. Rather it is a forum for sharing and discussing information essential to the improvement of the state's ability to protect its children.

The law specifies that Local Teams can request any information and records needed to review a child death, and that team members are required to provide information they or their agency may have on any case being reviewed. The law also states that team members and those who provide information to team members for case review may not be questioned in any civil or criminal proceeding. Confidentiality of all information used or discussed is mandated.

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BACKPACK SAFETY

American Academy of Pediatrics

Backpacks are a popular and practical way for children and teenagers to carry schoolbooks and supplies. When used correctly, backpacks can be a good way to carry the necessities of the school day. They are designed to distribute the weight of the load among some of the body's strongest muscles.

However backpacks that are too heavy or are worn incorrectly can cause problems for children and teenagers. Improperly used backpacks may injure muscles and joints. This can lead to severe back, neck, and shoulder pain, as well as posture problems. Share these guidelines to help your family use backpacks safely.

CHOOSE THE RIGHT BACKPACK. LOOK FOR THE FOLLOWING:

- **Wide, padded shoulder straps** – Narrow straps can dig into shoulders. This can cause pain and restrict circulation.
- **Two shoulder straps** – Backpacks with one shoulder strap that runs across the body cannot distribute weight evenly.
- **Padded back** – A padded back protects against sharp edges on objects inside the pack and increases comfort.
- **Waist strap** – A waist strap can distribute the weight of a heavy load more evenly.
- **Lightweight backpack** – The backpack itself should not add much weight to the load.
- **Rolling backpack** – This type of backpack may be a good choice for students who tote a heavy load. Remember that rolling backpacks still must be carried up stairs. They may be difficult to roll in snow.

TO PREVENT INJURY WHEN USING A BACKPACK, DO THE FOLLOWING:

- Always use both shoulder straps. Slinging a backpack over one shoulder can strain muscles. Wearing a backpack on one shoulder may increase curvature of the spine.
- Tighten the straps so that the pack is close to the body. The straps should hold the pack two inches above the waist.
- Pack light. The backpack should never weigh more than 10 to 20 percent of the student's total body weight.
- Organize the backpack to use all of its compartments. Pack heavier items closest to the center of the back.
- Stop often at school lockers, if possible. Do not carry all of the books needed for the day.
- Bend using both knees, when you bend down. Do not bend over at the waist when wearing or lifting a heavy backpack.
- Learn back-strengthening exercises to build up the muscles used to carry a backpack. Ask your pediatrician for advice.

PARENTS CAN ALSO HELP IN THE FOLLOWING WAYS:

- Encourage your child or teenager to tell you about pain or discomfort that may be caused by a heavy backpack. Do not ignore any back pain in a child or teenager. Ask your pediatrician for advice.
- Talk to the school about lightening the load. Be sure the school allows students to stop at their lockers throughout the day. Team up with other parents to encourage changes.
- Consider buying a second set of textbooks for your student to keep at home.

The information contained in the publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variation in treatment that your pediatrician may recommend based on individual facts and circumstances.

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CHILD FATALITY REVIEW IN MASSACHUSETTS: *continued from page 5*

Once a case has been reviewed, team members may reach conclusions about the child's death that lead them to recommend changes to prevent similar deaths from occurring in the future. The death might point to a problem with a particular product or a lapse or delay in medical care received by the child before they died. The death might also suggest changes in policies or services offered by team members, or other agencies that could help prevent future deaths. These recommendations for change can be dealt with at the community level or forwarded to the State Team, which considers them and can pass them on to the governor, legislature and the public for their consideration and response.

Although school nurses, counselors, teachers and other officials are not mandated to be members of child fatality review teams, they can be excellent sources of information on a particular child and can be asked to participate in a particular review if the team considers it appropriate. If you would like more information on the child fatality review team that covers your district, contact Janet Berkenfield at the Massachusetts Department of Public Health by email, janet.berkenfield@state.ma.us, or by telephone, (617) 624-5088.

CONCUSSIONS: SYMPTOMS, RECOGNITION, DANGERS AND GUIDELINES

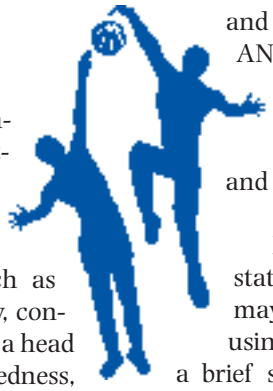
Rita Glassman, Co-Executive Director, National Youth Sports Safety Foundation

OVERVIEW

Head injuries are one of the most common causes of death in athletes.[1] For children under fifteen years of age, sports-related head injuries are more than twice as frequent as motor vehicle head injuries.[2] Nearly 63,000 high school athletes a year suffer mild concussions.[3] An injury to the brain can have devastating consequences, including death, paralysis, behavior change and loss of memory, movement, sensation and intellect. Concussions are a form of traumatic brain injury, and have been defined in recent literature as a trauma-induced alteration in mental status that may or may not involve a loss of consciousness.

SYMPTOMS

Most people believe that you must be knocked unconscious to have a concussion. However, most sports-related concussions occur without a loss of consciousness, and signs of a head injury may not appear until later, sometimes even several weeks after the initial injury occurred. Signs and symptoms may be subtle, such as headaches, dizziness, difficulty with balance or memory, confusion or a personality change. Additional symptoms of a head injury may include mild visual disturbance, light-headedness, feeling in a "fog", nausea and vomiting, drowsiness or memory loss, stumbling and lack or coordination, fatigue, irritability, sensitivity to light, ringing in ears, numbness/tingling, weakness in arms or legs, and intolerance of loud noises.



DANGERS

Concussions in sports frequently occur from head to head, or head to body collisions; from objects such as projectiles, game controls or surfaces; and from intentional fighting or unintentional horseplay. The sports with the highest frequency of concussion include football, wrestling, soccer, basketball, softball, basketball, field hockey, baseball and volleyball.[4] Since many concussions occur without a loss of consciousness, it makes the recognition of them with children somewhat tricky. Returning an injured athlete to competition when the brain needs time to recover is an obvious concern. One of the reasons for concern is second impact syndrome, a rare but ominous consequence of an untimely blow to a vulnerable central nervous system. If the diagnosis of the concussion is missed, putting youth back in the game too soon can put them at risk for death. Children rarely get another serious concussion- they die. For these reasons, an athlete who sustains a concussion, however mild, must not return to play until cleared by a physician or qualified health professional.

GUIDELINES AND PREVENTION

Safety equipment such as helmets and mouthguards have been developed to help prevent and reduce the severity of concussions. Standards for the safety equipment have been developed by NOCSAE (National Operating Committee on Standards for Athletic Equipment); ASTM (American Society for Testing and Materials); Snell (Snell Memorial Foundation), and ANSI (American National Standards Institute). However, no piece of safety equipment can completely prevent a concussion. Education on the prevention of head injuries, symptoms of concussions, and dangers of return to play too soon is critical.

Neuropsychological testing and testing of mental status in order to determine the grade of a concussion may be performed on the sidelines in just five minutes using the Standardized Assessment of Concussion (SAC), a brief screening instrument which measures orientation, immediate memory, neurologic screening, concentration, exertional maneuvers and delayed recall. A pocket-sized card is available to facilitate quick use by athletic trainers and medical personnel. The results of the screening assist in determining the grade of the concussion.

For more information, the following national medical and sports medicine organizations have developed resources for the evaluation of the severity of a concussion and return to play decision-making: the American College of Sports Medicine, the Colorado Medical Society and the American Academy of Neurologists.

1. Sideline Help – A Guide for Immediate Evaluation and Care of Sports Injuries; Steel, MK; Human Kinetic Publishing; 1996; NYSSF Fact Sheet; Head Injuries
2. Consumer Product Safety Commission; Commissioners Roundtable on Head Injury in Youth Sports; May 2, 2000, Washington, DC; John W. Powell, PhD.
3. Associated Press; Sept. 7, 1999, reporting on an article in the Journal of the American Medical Association.
4. Consumer Product Safety Commission; Commissioners Roundtable on Head Injury in Youth Sports; May 2, 2000, Washington, DC; John W. Powell, PhD.

COLD MEDICINE ABUSE

Jill Griffin, MA/RI Regional Center for Poison Control and Prevention

At any given time, colds are common in schools and places of work. With busy schedules and limited sick time, many people choose to self-medicate in order to alleviate their symptoms. This includes adolescents, who can easily purchase these products at any local store. However, an increasing trend among young people is the abuse of over-the-counter (OTC) cold medications. Of particular concern is dextromethorphan or DXM, which is used in a variety of OTC cough and cold medications, particularly those whose name includes "DM" or "Tuss". DXM is a narcotic related to opium that suppresses an area in your brain that causes you to cough.[1, 2] When used according to directions, the drug will alleviate cough, and is particularly helpful with night-time coughing that keeps you awake. However, when abused in higher doses, it creates a euphoric and hallucinogenic effect, similar to ecstasy and LSD. It alters perception of reality. People report having creative dreamlike experiences and a dissociative experience while using the drug.

Increased media coverage of "Pharming" or intentional misuse of over-the-counter medicines, reveals that this practice is becoming more popular and potentially more deadly. It is cheap, legal, and readily available, and most parents won't question their children for having cold medicine in their bags or rooms. That is why teens turn to dextromethorphan (DXM), to get high. Experts believe abuse of DXM is rising among adolescents, particularly on the rave and club scene. However, reported cases are sporadic often because parents are unaware of DXM abuse, or it is being mixed with other substances that mask the drug's effects. In 2002, the Regional Center for Poison Control and Prevention serving Massachusetts and Rhode Island recorded 1048 calls for misuse of DXM, up from 870 the year before.[3]

A particularly toxic source of DXM is Coricidin HBP Cough and Cold tablets or "Triple C" as it's often called. It is a widely available cough and cold medication.(3) Triple C contains a powerful dose of dextromethorphan. Some middle schools and high schools have seen an increase in abuse of Triple C by their students. It is more deadly than other sources of DXM because of the combination of drugs in each pill. In addition to the dextromethorphan, these pills also contain an anticholinergic drug, a class of drug that in general is very dangerous to take in large doses with dextromethorphan. Numerous deaths have been linked nationwide to Coricidin overdose.

Symptoms of DXM misuse include loss of balance, increased pulse, hypothermia, severe high blood pressure, loss of consciousness, mania, loss of muscle control, permanent brain damage, coma, seizures, cerebral hemorrhages and stroke. Decreased ability to regulate body temperature results in reduced sweating and increased body temperatures. When taken in a dance-club setting, accompanied by vigorous physical activity and poor air circulation, the result can be heat stroke. This phenomenon is sometimes called "rave-related heat stroke."(4) Additional symptoms include dry mouth and loss of body fluid, dry itchy skin and occasional patches of flaky skin, blurred vision, hallucinations, cognitive alterations, delusions, nausea, abdominal pain, vomiting, vomiting of blood, numbness of fingers or toes, redness of face, headache or death. [4,5]

Often, teens will drink a whole bottle of cough syrup or take 10 to 20 cold tablets to get high, which, as with Coricidin, opens them up to the effects from other drugs that are sometimes found in cough and cold medications such as Tylenol (acetaminophen) or other decongestants or antihistamines.(4) Serious liver damage can occur when these medicines are combined and consumed in large quantities. Taking DXM while using prescription medications such as Monoamine Oxidase Inhibitors (MAOIs) and Prozac, as well as numerous others, can greatly increase health hazards. Accompanying these physical side effects are the social risks associated with all substance abuse – impaired driving, injury, sexual assault and unintended pregnancies and/or sexually transmitted infections due to impaired judgment.

It is important for parents, teachers and care-givers to recognize the symptoms of cold medicine abuse and talk to their kids about it. There are numerous websites that provide young people with misinformation about the "pleasures" of using this drug recreationally. These drugs are deadly and can create permanent damage. If parents and teachers notice young people frequently carrying cough and cold medicines, particularly when they do not have symptoms, it is very important to respond as they would with any other substance abuse issue. If you suspect an overdose, call your local Poison Control Center at 1-800-222-1222.

RESOURCES:

- **National Poison Control Hotline:**
  1-800-222-1222
- **Partnership of Awareness - DXM**
  http://www.partnershipforawareness.org/dxm.htm
- **US Department of Justice**
  DXM Fast Facts: http://www.usdoj.gov/ndic/pubs6/6095/
- **Indiana Prevention Resource Center**
  FactLine on Non-Medical use of Dextromethorphan aka "DXM"
  http://www.drugs.indiana.edu/publications/iprc/factline/dxm.html
- **NIDA: Research Report Series - Hallucinogens and Dissociative Drugs**
  http://www.drugabuse.gov/ResearchReports/hallucinogens/halluc4.html
- **Substance Abuse and Mental Health Services Administration (SAMHSA) Substance Abuse Treatment Facility Locator**
  http://www.findtreatment.samhsa.gov/facilitylocatordoc.htm

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PASSENGER SAFETY TIPS

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Nobody plans to have a car crash, and there are many ways that we can plan to prevent one. Make sure that you always drive within the speed limit, do not drive while under the influence of drugs or alcohol, and most importantly, always wear your safety belt and make sure that all children are properly restrained. This will help to keep you, your fellow drivers, and passengers safer on the road.

In 2002, safety belt usage in Massachusetts was only 51%, compared to the national average of 75%, and in 2001, motor vehicle injuries were the 2nd leading cause of death for children 1-14 in Massachusetts. In 2000, there were approximately 433 deaths, 91,000 injuries, and $6.3 billion in economic costs from motor vehicle crashes in Massachusetts. The best way to reduce this human and economic toll is to make sure that everyone wears their safety belt and all children are properly restrained while riding in a motor vehicle.

More than 55% of the occupants killed in motor vehicle crashes in Massachusetts in 2000 were not wearing their safety belts. Many people feel that they only need to wear safety belts when they are traveling long distances, but 80% of deaths due to car crashes occur within 25 miles of home and at speeds under 40 miles per hour. Another common misconception is that air bags will protect you just as much as safety belts, but air bags are designed to work with safety belts, not by themselves. Air bags are important, but they only offer supplemental protection.

Here are some recommendations specific to child passenger safety:

- The Massachusetts Law requires children to ride in child passenger restraints until they are 5 years old and weigh 40 pounds.
- Always follow manufacturers' instructions when installing a child safety seat.
- Infants up to 20 pounds and one year old should ride in a rear-facing child safety seat.
- Children in rear-facing child safety seats should never be placed in the front seat of vehicles with a passenger-side air bag. An inflating air bag striking a rear-facing child safety seat can result in death or severe injury.
- Children who weigh more than 20 pounds and who are one year of age or older may ride in a forward-facing child safety seat.
- Children between 40 and 80 pounds, and less than 4'9" tall, should ride in a booster seat. A booster seat helps the seat belt to fit correctly and safely and gives children more comfort and visibility.
- Children 12 years old and under should sit in the rear seat whenever possible to reduce their risk of death and serious injury.

Here are some helpful passenger safety resources:

- Whenever possible, have your child safety seat checked by a Child Passenger Safety (CPS) Technician. To find a CPS Technician in Massachusetts, please go to www.masscps.org and click on Technician Locator or call (978) 392-5956.
- The CAR-SAFE Line is a toll-free help-line for Massachusetts residents who have questions about passenger safety. To reach the CAR-SAFE Line, please call 1-800-CAR-SAFE (or 1-800-227-7233).
- The Injury Prevention and Control Program at the Massachusetts Department of Public Health can provide you with detailed passenger safety information. Please call them at (617) 624-5070 or visit their web site at http://www.state.ma.us/dph/fch/injury/index.htm.
- The National Highway Traffic Safety Administration (NHTSA) can provide you with detailed passenger safety information, including rules, regulations, and recalls. Please contact NHTSA's regional office in Cambridge at (617) 494-3427 or visit their extensive website at www.nhtsa.dot.gov.

Please remember to buckle up every trip, every time. Safety belts can reduce your risk of serious injury or death by 50%.

COLD MEDICINE ABUSE *continued from page 8*

REFERENCES

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DRINKING AND DRIVING DON'T MIX

Neetu Manjunath, MPH

Although the danger of driving under the influence of alcohol or other drugs is well known, people continue to do it. Drinking and driving is especially a problem among the teenage population. On the national level, there have been ten years of gradual success. But, over the last 3 years fatalities due to alcohol-related crashes have not significantly improved. In fact, the National Highway Traffic Safety Administration estimates that alcohol-related fatalities rose from 17,400 in 2001 to 17,419 in 2002. In Massachusetts in 2002, there were 459 motor vehicle-related fatalities and 221, or 48%, of these deaths involved the use of alcohol or other drugs. This is 7% more than the national rate of 41%. Alcohol-related fatalities in Massachusetts increased by 6% between 2000 and 2002 (MADD).

Alcohol and other drugs impair driving skills long before the individual feels "buzzed". Alcohol alters the perception of reality, which negatively affects driving ability and makes the driver dangerous to himself and others on the road. In July of 2003, a .08 Per Se law was passed in Massachusetts, making it illegal to operate a motor vehicle at or above .08 blood alcohol concentration (BAC). If an individual is pulled over and the BAC is at or above .08, he will get a Driving Under the Influence (DUI) citation. Remember that a DUI is a serious offense and has serious consequences. If the individual gets a DUI, his car will be towed and he will be taken to the police station. His license will be suspended and he will have to be bailed out of jail. If convicted, the individual will have fines and legal fees that cost thousands of dollars. We can keep our roads safe by not mixing alcohol and other drugs with driving and never letting someone who has consumed alcohol or other drugs drive.

If your school wants to address drinking and driving issues, the following resources in Massachusetts will provide valuable information:

- Students Against Destructive Decisions (founded as Students Against Driving Drunk-SADD): Julie Cushing, Massachusetts State Coordinator, 1-877-SADD-INC, extension 230, or jcushing@sadd.com. For general information about SADD, visit their website at www.sadd.org.
- Mothers Against Drunk Driving (MADD) has local chapters throughout Massachusetts. For general information about MADD's programs or to find your local chapter, please go to www.madd.org.
- The Massachusetts Governor's Highway Safety Bureau has several youth programs geared towards impaired and drunk driving. For more information about these programs, please call (617) 727-4054 or go to www.massghsb.com and click on "Programs".

HOME FIRE DRILLS

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Smoke alarms are an important safety feature because they help to give an early warning of a fire. Although some studies have shown that sleeping children often do not wake up to the sound of an alarm going off in the home, this is not to imply that alarms are not helpful. On the contrary, even if children do not wake up, parents are alerted and can help get their children and other family members to safety outside.

It is very important for parents to know how their children are likely to react in case of a fire. The way for parents to discover this is by having a home fire exit plan and by practicing fire exit drills in the home at night. Children are trained in school to know what to do when the fire alarm goes off. They can assemble and get out of school buildings in excellent time and in orderly fashion because of regular practice. There are many more fires in homes than in schools. In fact, 80% of fires happen in residences.[1] Yet most parents do not have a fire exit drill that they regularly practice with their children. Children need to become familiar with the sound of the alarm as well as with the safest exit routes in the event of a fire emergency.

The Department of Public Health has available for loan, a video entitled, "Home Fire Drills: What Every Parent Should Know". This is a valuable short video for all parents and caregivers. Children in this video who were told what to do when the smoke alarm went off at home were unable to do as instructed when a fire drill was done in the home at night. After practicing what to do, all of the children woke up to the alarm and were able to do what they had practiced.

The importance of home fire drills needs to be conveyed to parents. In the confusion of waking up to a loud unfamiliar sound, in the dark and possibly with smoke in the room, it is easy to imagine anyone panicking, particularly a child. Developing and practicing a home fire escape plan can mean the difference between life and death.

1U.S. Fire Administration.
http://www.usfa.fema.gov/public/factsheets/facts.shtm

INJURY RISK FOR TEENS AT WORK

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Massachusetts Department of Public Health

Did you know?

- In Massachusetts, on average, over 77,000 teenagers between the ages of 15-17 were employed on any given day in 2001. (Current Population Survey, 2002)
- Teens have higher on-the-job injury rates than adults. Each year in the US, approximately 230,000 young workers are injured on the job, and 70 teens die as a result of injuries at work. (NIOSH website 2004)
- Homicide is the leading cause of work-related death among 16-17 year olds.(NIOSH 2002)
- Health care providers are mandated to report work-related injuries to persons less than 18 years of age to the Massachusetts Department of Public Health

The Massachusetts Department of Public Health's Teens at Work Injury Surveillance and Prevention Project collects data on work-related injuries to teens less than 18 years of age in Massachusetts. Since 1993, more than 5,500 work-related injuries to teens have been identified using primarily workers' compensation records for injuries resulting in five or more lost work days and records from a sample of twelve hospital emergency departments. Over half of the reported injuries occurred in just five industries: restaurants (28%), grocery stores (13%), retail bakeries (7%), nursing homes (5%), and department stores (4%). The most common injuries to teens were cuts/lacerations/punctures (28%), which are often dismissed as "not serious." However, follow-up interviews of teens with work-related lacerations suggest that 26% anticipate permanent loss of sensation or function as a result of their injuries. Strains and sprains are also common. About half of these involve the back, raising concern about future back pain for these youths.

Interviews with injured teens highlight a number of important issues that need to be addressed. About half of those interviewed reported not receiving any on-the-job training on how to work safely and avoid injury; over a third did not have work permits or educational certificates as required under the state child labor laws; and 14% were injured when no supervisor was on site.

When working teens are asked about concerns at work, worries about angry customers and violence are often voiced. Violence in the workplace is a real issue for teens, as was tragically illustrated by the recent homicide of the Boston Latin High School student while working at CVS (Boston Globe, 2/14/04). Many teens work in retail trade and service industries that are at high-risk for robbery and other violence. (Current Population Survey). Characteristics of workplaces that are particularly vulnerable to violence include contact with customers or clients, access to cash, unsecured working environment and late-night operation (National Consumer League, 2002).

Working alone is another risk factor, especially when combined with the above elements. Employers are responsible for providing safe workplaces for employees and should have violence prevention programs in place that include evaluating the risks, implementing prevention measures and training of all staff on potential security hazards and procedures to protect themselves.

Additional information about work-related injuries to teens in Massachusetts and efforts to prevent these injuries can be found on the MPDH website, www.state.ma.us/dph/bhsre/ohsp/ohsp.htm. For more information on reporting cases of work-related injuries to teens call 617-988-3343 or email Teens.atwork@state.ma.us.

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INJURY PREVENTION RESOURCE LIST

◆**Massachusetts Department of Public Health Injury Prevention and Control Program**
This office coordinates Department of Public Health efforts and works with other state agencies, the public and community-based programs to develop and expand efforts to prevent injury. www.state.ma.us/dph/fch/injury Contact: Cindy Rodgers, Director: (617) 624-5413

The **quarterly mailing** provides seasonally-appropriate injury prevention materials for parents and administrators. To join the mailing list, please contact Sarah Hughes: (617) 624-5493.

◆ **Massachusetts Injury Prevention Yellow Pages**
A comprehensive list of state, regional and national organizations that address injury prevention. View it online at www.state.ma.us/dph/fch/injury/yellowpg.pdf

◆ **National SAFE Kids**
A national non-profit organization dedicated solely to the prevention of unintentional childhood injury. Visit their website at www.safekids.org.

◆ **Greater Boston and Western Massachusetts SAFE Kids**
Local coalitions of the national organization. Greater Boston: led by the Boston Department of Health. Contact: Erin Christianson, (617) 543-2633 or visit www.bphc.org/cipp/cipp.htm Western MA: led by Baystate Medical Center. Contact: Mandy Summers, (413) 794-5434 or visit www.baystatehealth.com/safekids

◆ **U.S. Consumer Product Safety Commission (CPSC)**
Works to protect consumers from products that pose a hazard of injury or can be harmful to children. www.cpsc.gov

◆**National Center for Injury Prevention and Control (NCIPC)**
A national program of the Centers for Disease Control that works to reduce injury, disability, death, and costs associated with injuries outside the workplace. www.cdc.gov/ncipc

◆ **Children's Safety Network (CSN)**
Funded by the Maternal and Child Health Bureau and the U.S. Department of Health and Human Services, CSN provides technical assistance to health professionals, conducts research on injury-related topics and facilitates the implementation of new injury prevention programs.

◆ **Anti-Bullying Website:**
The Health Resources and Services Administration, with support from he U.S. Department of Health and Human Services and the Maternal and Child Health Bureau, has just released a new website: www.stopbullyingnow.hrsa.gov. The website was created by a Youth Expert Panel of 9 through 13-year-olds to reflect the "real life" impact of bullying in middle school and beyond. It provides information, resources, cartoons and games for children who bully, have been bullied or want to learn more about how to prevent bullying. It also offers materials for parents, school administrators, teachers, health professionals, law enforcement officers and other adults who can play a role in bullying prevention.

◆**National Injury and Violence Prevention Resource Center (NIVPRC)**
in Newton provides information, training and resources directed at reducing childhood injury. Information on school safety is available on their website: www.childrenssafetynetwork.org

◆ **American Academy of Pediatrics (AAP)**
Members of the AAP are physicians dedicated to improving the health and welfare of children. AAP's The Injury Prevention Program (TIPP) includes information on safety counseling and provides age-appropriate safety materials for parents to take home. Recommendations for child passenger safety can also be found on their website: www.aap.org or the Massachusetts chapter: www.mcaap.org

◆ **Recommended Reading Material**
"Preventing School Injuries." By Marc Posner. Senior Research Associate and Project Director at Education Development Center. Can be obtained through Rutgers University Press http://rutgerspress.rutgers.edu. $34.00